

**REMARKS**

By this amendment, claims 1-6 and 8-22 are pending, in which claim 7 has been previously canceled without prejudice or disclaimer, no claims are withdrawn from consideration, claims 9, 14, and 19 are currently amended, and no claims are newly presented. No new matter is introduced.

The Office Action mailed December 10, 2007 rejected claims 9, 14, and 19 under 35 U.S.C. § 112, second paragraph, as being indefinite because they are hybrid claims, and claims 1-6 and 8-22 under 35 U.S.C. § 102(e) as anticipated by *Agarwal et al.* (US 6,894,990).

Applicants respectfully traverse the rejection of claims 9, 14, and 19 under 35 U.S.C. § 112, second paragraph. To the extent they may be considered “hybrid” because they claim a “computer-readable medium” and refer to a “method,” the claims are not indefinite. That is, they are clearly directed to a “computer-readable medium” (i.e., an article of manufacture). In specifically identifying the computer-readable medium claimed, it is set forth that the computer-readable medium bears instructions for adapting multicast services originated by a terrestrial network over a satellite network. The claims further recite that these instructions, when executed, cause a processor or processors to perform a certain series of steps. Because the series of steps to be performed by the processor or processors is already set forth in claims 1, 10, and 15, respectively, claims 9, 14, and 19 have used a short-cut in reciting the invention by incorporating, or referring to, those steps of the independent claims. Claims 9, 14, and 19 can be written in independent form, physically incorporating all of the steps performed into the body of the claims (as suggested by the Examiner), but this will not make the claims any more definite than they already are, as they will merely physically incorporate all of the steps already included in the independent claims, and that is already achieved by reference to the “steps of the method according to” the independent claim, as written.

If required by the Examiner, Applicants will comply by placing claims 9, 14, and 19 in independent form, but, for the reasons above, Applicants do not deem such a change necessary as claims 9, 14, and 19 are definite as written. Accordingly, Applicants respectfully request the Examiner to reconsider and to withdraw the rejection of claims 9, 14, and 19 under 35 U.S.C. § 112, second paragraph. Claims 9, 14, and 19 have been amended to make it clearer that the instructions cause the processor or processors to perform the steps of the method recited in the respective independent claims.

Regarding the rejection of claims 1-6 and 8-22 under 35 U.S.C. § 102(e) as anticipated by *Agarwal et al.*, Applicants respectfully traverse. A rejection for anticipation under §102 requires that the four corners of a single prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation. *See Atlas Powder Co. v. Ireco Inc.*, 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999); *In re Paulsen*, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994). Because *Agarwal et al.* does not disclose each and every element of the instant claimed subject matter, it cannot anticipate that subject matter.

For example, claim 1 recites that a request is received “for establishing a multicast session associated with **a network address conforming to a first communication protocol.**” The claim also requires, “**assigning an address conforming to a second communication protocol** for a multicast **group of satellite terminals within the satellite network to map to the network address.**” *Agarwal et al.* does not disclose the establishment of a multicast session associated with **a network address conforming to a first communication protocol** and **assigning an address conforming to a second communication protocol** for a multicast **group of satellite terminals within the satellite network to map to the network address.** Step S202 of *Agarwal et al.* indicates a request for multicast services from the network control center

NCC. This may be regarded as receiving a request for establishing a multicast session, but there is no suggestion in *Agarwal et al.* that this is “associated with **a network address conforming to a first communication protocol.**” But even assuming, *arguendo*, that this request is associated with **some** address and that whatever is at that address conforms to **some** communication protocol, there is clearly no disclosure in *Agarwal et al.* of “**assigning an address conforming to a second communication protocol for a multicast group of satellite terminals within the satellite network to map to the network address.**” The Examiner contends that this is taught by the NCC in *Agarwal et al.* updating a master routing table whereby a layer 2 address is a second communication protocol and that this is mapped to a layer 3 IP multicast address for establishing the multicast session, referring to col. 4, lines 14+ of the reference. However, the referenced portion of *Agarwal et al.* is directed to the flowchart of Fig. 2, whereby a master routing table is established in the RS 40 by communication between the RS and other routers, a terminal 34 requests multicast services from the NCC 30, the NCC 30 assigns a TDMA slot for broadcast services for the use of the requesting terminal and updates the master routing table, and the multicast services are broadcast by the originating terminal 34 over the assigned slot, so that all terminals receive the transmitted message. There is nothing herein regarding establishing a multicast session associated with **a network address conforming to a first communication protocol** and then “**assigning an address conforming to a second communication protocol for a multicast group of satellite terminals within the satellite network to map to the network address.**”

Moreover, claim 1 also recites, “transmitting configuration information including the **assigned satellite address to the satellite terminals** for establishment of the multicast session; and selecting one of a plurality of distribution mechanisms for transport of dataflow **over the satellite network to the assigned satellite address, wherein the selected distribution**

**mechanism is switched to another one of the distribution mechanisms based on capacity of the satellite network and reachability of the participating satellite terminals.”** *Agarwal et al.* fails to teach these claim features and the Examiner has not even addressed these specific features of the claim, except to state only that “fig. 5 teaches forwarding of the routing information S502 (reachability of the participating satellite terminals) are received by the NCC wherein based on this information and the availability of the bandwidth (capacity), the multicast session is updated (selecting...distribution mechanism)” (Office Action of December 10, 2007- page 2). However, a review of Fig. 5 of *Agarwal et al.*, and the supporting disclosure reveals only a transmission of IP packets from a source attached to terminal 34. When multicast packets reach terminal 34, a search of the forwarding table in terminal 34 is made in order to determine a match for the Source Address and Group Address. If no match is found, the packets are forwarded to RS 40. RS 40 then checks its forwarding table for a match for the Source Address and Group Address, and if there is no match, it will create a new forwarding table entry for the Source Address and Group Address. RS 40 will then send a message to update the multicast forwarding table of the ingress terminal 34 with the Source Address and Group Address table entry. This entry will specify that the Source Address and Group Address packets be sent to all other terminals using a broadcast burst. RS 40 would also request NCC 30 to allocate a broadcast burst to the ingress terminal 34. and RS 40 will send a broadcast message to all other terminals to add an entry for the Source Address and Group Address in their forwarding tables which would indicate that all Source Address and Group Address packets entering from the satellite interface would be sent out on the terrestrial interfaces. Finally, RS 40 would broadcast the multicast packet that triggered all the activity to all other terminals. Clearly, contrary to the Examiner’s assertion, nothing within this disclosure is indicative of “transmitting configuration information including the **assigned satellite address to the satellite**

**terminals** for establishment of the multicast session; and selecting one of a plurality of distribution mechanisms for transport of dataflow **over the satellite network to the assigned satellite address, wherein the selected distribution mechanism is switched to another one of the distribution mechanisms based on capacity of the satellite network and reachability of the participating satellite terminals,**” as claimed.

Independent claim 10 requires, “transmitting a request for establishing a multicast session over the satellite network to a hub station, **the request specifying a multicast network address supported by the terrestrial network, wherein the hub station selectively assigns a satellite address that maps to the multicast network address and configures a satellite within the satellite network with a multicast distribution plan of participating satellite terminals;** and receiving an acknowledgement message from the hub station specifying the satellite address, wherein the dataflow is forwarded by the source host over the satellite network to the participating satellite terminals according to the satellite address, **wherein transport of the dataflow over the satellite network is according to one of a plurality of distribution schemes, the one distribution scheme being switched to another one of the distribution schemes based on capacity of the satellite network and reachability of the participating satellite terminals.**” These features are not disclosed by *Agarwal et al.* The Examiner refers to the rejection of claim 1 for an explanation of the rejection of independent claims 10 and 15, but, as explained above, there is no *prima facie* case of anticipation established with regard to the subject matter of claim 1 and, similarly, there is no *prima facie* case of anticipation established with regard to the subject matter of claims 10 and 15. Moreover, without any specific citation in *Agarwal et al.*, the Examiner asserts, with regard to claims 10 and 15, that the NCC of *Agarwal et al.* “detects the dataflow between the sources to terrestrial network wherein the network includes a satellite network and a plurality of hub stations 16, 18, wherein based on the

routing information the satellite updates the spot beam distribution supporting the multicast session” (Office Action of December 10, 2007-page 3). Even if this statement is true, it still does not explain how *Agarwal et al.* is deemed to disclose “transmitting a request for establishing a multicast session over the satellite network to a hub station, **the request specifying a multicast network address supported by the terrestrial network, wherein the hub station selectively assigns a satellite address that maps to the multicast network address and configures a satellite within the satellite network with a multicast distribution plan of participating satellite terminals**; and receiving an acknowledgement message from the hub station specifying the satellite address, wherein the dataflow is forwarded by the source host over the satellite network to the participating satellite terminals according to the satellite address, **wherein transport of the dataflow over the satellite network is according to one of a plurality of distribution schemes, the one distribution scheme being switched to another one of the distribution schemes based on capacity of the satellite network and reachability of the participating satellite terminals.**”

With regard to independent claims 20-22, the Examiner merely lumps them into the rejection of claim 1 with no further explanation as to how *Agarwal et al.* is deemed to meet the many features of these claims. Accordingly, Applicants rely on the arguments regarding claim 1 above and contend that the Examiner has failed to establish a *prima facie* case of anticipation with regard to the subject matter of claims 20-22.

Accordingly, the Examiner is respectfully requested to withdraw the rejection of claims 1-6 and 8-22 under 35 U.S.C. § 102(e). If the Examiner maintains this rejection, in order for Applicants to more fully respond, the Examiner is respectfully requested to point out a one-to-one correspondence between each element of the instant claims and some specific teaching in *Agarwal et al.*, rather than merely refer to general portions of the reference purporting to teach

the claimed features and leaving Applicants to speculate what meaning the Examiner is deriving from these general portions.

Therefore, the present application, as amended, overcomes the objections and rejections of record and is in condition for allowance. Favorable consideration is respectfully requested. If any unresolved issues remain, it is respectfully requested that the Examiner telephone the undersigned attorney at (703) 519-9952 so that such issues may be resolved as expeditiously as possible.

To the extent necessary, a petition for an extension of time under 37 C.F.R. §1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 504213 and please credit any excess fees to such deposit account.

Respectfully Submitted,

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